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Commentary Proposal on Van Lange et al.: Using foresight to prioritise the present.

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Commentary on Van Lange, Rinderu, & Bushman (2016):

Using foresight to prioritise the present

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Abstract

Planning for the future may encourage apparently 'impulsive' behaviour when the future is anticipated to be bleak. Thus, a seeming failure of self-control in reactive violence could be caused not by a disinclination to plan ahead, but by virtue of this ability. Furthermore, we point to empirical and theoretical shortcomings in the authors' case, such as a failure to distinguish proximate and ultimate explanations.

Using foresight to prioritise the present

In their target article, Van Lange (VL) et al. argue that cooler temperatures and greater seasonal variation encourage future planning and self-control in countries further from the equator, leading to reduced reactive violence. VL et al. draw together research from evolutionary, social and cognitive psychology in pursuit of an integrative model. However, we do not find their model compelling. Firstly, we point out an alternative role for explicit mental planning. Secondly, we note that the authors are not clear what kind of explanation they advance and thus what predictions the model makes. Finally, we note some apparent inconsistencies and empirical holes in their argument.

While people vary in their tendency to make future-oriented decisions (Kirby, Petry, & Bickel, 1999; Zimbardo, Keough, & Boyd, 1997), the capacity to travel mentally in time is a universal human ability among healthy adults with undeniable adaptive advantages (Suddendorf & Corballis, 2007). The ability to imagine future situations and organise current actions accordingly has been called *episodic foresight* (Suddendorf & Moore, 2011). People frequently rely on episodic foresight when making various kinds of decisions (e.g., Gilbert & Wilson, 2007), including, as VL et al. acknowledge, social ones (e.g., Boyer, 2008). VL et al.

note that: “The anticipation of future interaction is a powerful determinant of unselfish and cooperative behaviour in social dilemmas” (p28). Indeed, as economists and psychologists have realised, the anticipated costs of antisocial behaviours can reduce a propensity for so-called ‘short-sighted’ or ‘impulsive’ social transgressions, like stealing or aggression that may accrue immediate benefits—for instance in terms of material wealth or status (Boyer, 2008; Frank, 1988).

Thus, one of the reasons humans avoid reactive violence is because the delayed interpersonal costs of doing so can be foreseen. However, we think the role of mental time travel into the future does not end here. It may have the opposite effect when people imagine futures that are volatile, uncertain, or harsh. In those circumstances, delayed relational and coalitional costs of immediate violence may be downplayed because they are foreseen as less likely to materialise, or less dramatic against the harsh backdrop of one’s expected future (see Bolland, 2003; Brezina, Tekin, & Topalli, 2009). For this reason, a seeming ‘failure’ of self-control in reactive violence may sometimes be caused not by a disinclination to plan ahead, as Van Lange et al. imply, but by very virtue of this ability. In other words, prudent foresight, in certain circumstances, should lead to a general prioritisation of the present (Bulley, Henry, & Suddendorf, 2016; see also Daly & Wilson, 2005).

A second concern is that it is not clear what reasons the authors propose for the apparent links between average temperature/ seasonal variation and life history, time perspective, self-control and aggression. Are the purported relationships driven by explicit mental reasoning (as discussed above), individual learning, cultural evolution, an evolved genetic predisposition or calibration mechanism, or some combination of these factors? At times VL et al. point to individual reasoning and foresight, for instance when they write that individuals

"*realize* that they need to plan and prepare for the next season" (p21). At other times, they appeal to evolutionary adaptation or developmental plasticity: "average temperature and seasonal variation in temperature have shaped the *evolution and development of differential adaptation* in terms of life strategy, time-orientation, and self-control." (p27). And yet elsewhere, they seem to appeal to cultural evolution: "lower temperatures and especially greater seasonal variation in temperature *helps* individuals and *societies evolve* as less aggressive…" (p17; all emphases added).

Aside from inappropriately framing evolutionary processes in terms of goal directedness (e.g. that the environment "helps" people to evolve in a certain way), such statements fail to carefully delineate proximate (mechanistic/developmental) and ultimate (phylogenetic/functional) explanations, a practice which is critical when making evolutionary arguments (Mayr, 1961; Tinbergen, 1963). Given the potentially socially divisive nature of some possible interpretations of VL et al.'s propositions, it seems particularly important to be clear about what kind of explanation the authors advance and hence what predictions follow that could be put to the test (e.g., if their proposed explanation is at the phylogenetic level, it could be tested with genetic, or twin studies).

The authors also apply their argument inconsistently. They do not adequately explain why seasonal temperature variation should encourage planning more than other important predictable environmental stressors. For example, many hot countries north of the equator are subject to seasonably variable, but reasonably predictable, precipitation (Brown & Lall, 2006), leading to significant water stress (Oki & Kanae, 2006), a fact that VL et al. acknowledge (pp15-16). Nonetheless, they choose not to focus on the effects of variability in rainfall, reasoning that; 1) the effects of temperature have been more thoroughly examined in

the literature, 2) the associations between temperature and conflict appear to be stronger than those between rainfall and conflict, and 3) for most countries, temperature varies more predictably than rainfall. Whilst these might be good reasons to *focus on* the effects of temperature variability, they are not good reasons to *ignore* other climatic variables, which, by applying the authors' logic, should be important. In avoiding discussion of the effects of rainfall, as well as other variables, VL et al. fail to answer a key question: Why shouldn't the predictable stressors of hot climates also engender planning and self-control as per the predictable stressors of cooler climates?

There is a risk that ambiguous reasoning, aired in an esteemed journal such as this, will play into the hands of old racist prejudices about evolved inferiority of certain peoples. So we want to end this commentary with a warning that, in addition to the theoretical shortcomings already discussed, there are large empirical holes in the authors' case. For example, the target article avoids adequate consideration of the historical contexts of the regions in question (e.g. the profound consequences of slavery and colonisation for equatorial countries; see Diamond, 1999). They also sidestep potential counter-examples from near the equator (e.g., the peaceful nature of places such as Singapore; The World Bank, 2013), from history (e.g., the simultaneous planning successes and extreme violence of ancient Mesoamerican societies; see Harner, 1977), and from prehistory (e.g. that the extended time perspective characteristic of our species arguably began to evolve in African savannah-dwelling hominins; see McBrearty & Brooks, 2000; Suddendorf & Corballis, 2007).

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